

HYDROGEN DETECTOR

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Abstract

PURPOSE:To shorten the hydrogen detecting time by constituting a hydrogen detection sensor by coiling an optical fiber, so as to detect hydrogen based upon the increase of optical transmission loss when the optical fiber absorbs hydrogen.

CONSTITUTION:For a sensor part 11, the portion of an optical fiber 12 whose coating was removed is coiled up, and fixed with a coating 13 whose material is identical with the fiber 12, thus the fiber 12 is reinforced. Relating to the titled hydrogen detector, a sensor part 11 is directly provided to a fused sodium main flow channel of a fast breeder, and a laser beam source is connected to one end of the fiber 12, and an optical power meter is connected to the other end. In case a steam generator is damaged to make the fused sodium react with water to increase hydrogen in the fused sodium, the hydrogen is diffused in the fiber 12, so as to lower optical transmission efficiency. The increase of hydrogen concentration in the fused sodium is detected based upon the drop of transmission efficiency.

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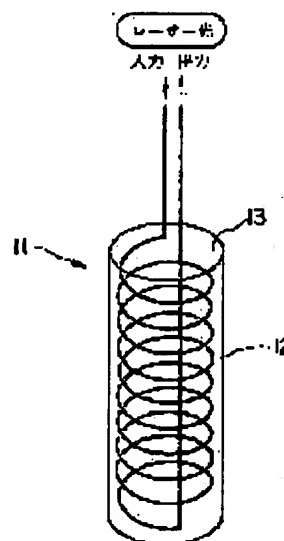
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(54) HYDROGEN DETECTOR

(57)Abstract:

PURPOSE: To shorten the hydrogen detecting time by constituting a hydrogen detection sensor by coiling an optical fiber, so as to detect hydrogen based upon the increase of optical transmission loss when the optical fiber absorbs hydrogen.

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